From: Rand Crafts
To: Milka Radulovic
Date: Mon, Nov 3, 2003 5:00 PM
Subject: IPP OFA Permitting

Milka,

I was out of the office for about a week. Here is what I have for you.

1) Regarding the O2 boiler performance monitoring, description is as follows:

Boiler O2 Measurement
O2 measurement is required to determine the amount of Excess Air (at the boiler exit). This information is inputted into the control system to determine proper combustion air flow levels for the fuel flow being fired.

A multi-point measurement array is utilized at the economizer outlet (downstream of the bias dampers) to determine outlet gas conditions. Eight probes (four on the east side and four on the west side) are taken and averaged. This information provides input to the Coordinated Control System (CCS) and to the Information Computer System (IN). The Information Computer also displays the readings individually, in addition to east and west side average and overall average.

The O2 probes are provided by COSA Instrument Corp and are a Zircomat Multiprobe In-Situ Oxygen Transmitter with a 9 meter self cleaning probe. The probes and transmitters are coordinated through a main control panel which provides calibration and purge capabilities.

2) Regarding OFA operation, I have the following description, along with a modified OFA discussion (attached):

Overfire Air System- Control Description
The general design of the Intermountain Generating Station combustion system originally included eight compartmented burner plenums fed from a common combustion air duct on each side of the boiler. Dampers installed at each end of the compartmented burner plenums operate in a master/slave arrangement with both dampers moving to a pre-determined position to ensure balanced air-flow at each row, depending on operational status of the associated mill.

The addition of the overfire air system did not change the original operating strategy for air flow control at the burner rows. The compartmented burner plenums still admit air at each end of the burner rows through parallel operated (master/slave) dampers at each end of the individual plenums. The primary change to combustion control has been the installation of a control signal auto-bias capability that provided the capability during system startup tuning to increment down the air flow demand signal to the plenum dampers to re-direct the combustion air up into the overfire plenum that is now installed in parallel with the other burner plenums at the front and rear of the furnace.

The auto-biasing capability recently installed in the original burner plenum dampers is sufficient to redirect up to 20% of the combustion air to the overfire plenum. This modification allows for the dynamic control of combustion air requirements based on fuel demand to continue uninterrupted. Air flow metering was installed in the new overfire duct to provide direct indication of air flow into the overfire plenum. Flow indication (local) at each, individual overfire port was also installed to provide information for both air flow balance and total overfire air flow confirmation.

3) Regarding VOC's - we have a good discussion on this in the test report. But let it suffice to say that AP42 calcs for VOC's will still be valid in as much as testing has shown, for those VOC's tested, that

actual emissions were less that AP42 numbers. We assume this to be true for all classes of VOCs. Since we have been reporting about 14 tons VOC emissions in our inventory, and any VOC changes are within this realm (from previous over-reporting to continued AP 42 calculations), it is impossible to attribute a 40 ton increase due to the change. PTE should not change for this project.

If there is anything else, please get back with me. Thanks.

Rand Crafts
Intermountain Power Service Corp
rand-c@ipsc.com
435-864-6494
435-864-0994 Fax